

Abstract of the Disclosure

5 An apparatus for matching the impedance of an RF generator to the impedance of
an RF load, for use in manufacturing semiconductor devices by using a plasma. The
apparatus includes a variable inductor coupled to a variable capacitor and an invariable
capacitor, the variable inductor having two inductors coupled electrically with each other
in series and disposed adjacent to each other. At least one of the two inductors is disposed
movably to make the magnetic flux of the one inductor interfere with the magnetic flux of
the other inductor, thereby to control the inductance of the variable inductor. In the case
of a plasma enhanced semiconductor wafer processing system, the apparatus can reduce
the time necessary to achieve an RF match between the RF generator and the RF load,
10 thereby increasing the life of the apparatus.